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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,325	04/01/2004	Stephan Courcambeck	2269-19-3	1111

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EXAMINER
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YALEW, FIKREMARIAM A

ART UNIT	PAPER NUMBER
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2436

MAIL DATE	DELIVERY MODE
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11/04/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,325	<b>Applicant(s)</b> COURCAMBECK ET AL.	
	<b>Examiner</b> Fikremariam Yalew	<b>Art Unit</b> 2436	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 August 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 18-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. The office action is in replay to an amendment filed on 08/27/2010. Claims 1, 4 and 18 have been amended. Claims 1-5 and 18-24 are pending.

#### *Response to Arguments*

2. Applicant's arguments with respect to claims 1-5 and 18-24 have been considered but are not persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, .It would modify in order to provide a method and system for limiting the interference of a background process with a foreground process. Applicant argued that the combination of Sinha and Douceur does not explicitly teach or suggest "calculating, on each task change between a first program module switching from foreground to background and a second program module switching from background to foreground, a signature of at least part of the second program module instruction lines". The examiner disagree and points out the combination of Sinha and Douceur does not explicitly teach calculating, on each task change between a first program module and a second program module of CPU (See Sinha col.7 line 67 through col.8 line 3 and col.14 lines 18-24 and claims 1-2(**i.e., execution identifying and first & second program module having distinct execution-identifying signature**)), a signature of at least part of the program module instruction lines and each signature being associated with a

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program identifier (See col.4 lines 28-34 and col.13 lines 33-39(i.e., **generate unique identifier for program module**)). The combination of Sinha and Douceur teach switching from foreground to background and switching from background to foreground, a signature of at least part of the second program module instruction lines(See Douceur 0005-0008,0036,0064-0065 and Fig 5(i.e., **interference of a background process with a foreground process**)). Applicant also argued that “a processor of multitask execution of several programs, each of the several programs being different from each other exploiting a table of correspondence, each correspondence being associated with an identifier of the involved program, comprising means for calculating a current signature, and means for comparing this signature with the identifier of the program stored in the correspondence table”. The combination of Sinha and Douceur teach a processor of multitask execution of several programs, each of the several programs being different from each other exploiting a table of correspondence, each correspondence being associated with an identifier of the involved program, comprising means for calculating a current signature, and means for comparing this signature with the identifier of the program stored in the correspondence table (See Sinha col.7 line 67 through col.8 line 3 and col.14 lines 18-24). The combination of Sinha and Douceur also teaches each of the several programs being different from each other(See Douceur 0005-0008,0019,0038 and Fig 5). The applicant argued that the combination of Sinha and Douceur does not teach or suggest "executing, at CPU, a plurality of programs simultaneously, each program having a unique signature calculated when first executed; wherein each program includes currently-executing tasks that change between a foreground and a background at the CPU; calculating, on each task change, a new signature of at least part of program instruction lines for the program associated with the task; and checking the

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conformity of new signature with the unique signature ”.The examiner disagree and pints out the combination of Sinha and Douceur teaches executing, at CPU, a plurality of programs simultaneously, each program having a unique signature calculated when first executed(See Sinha col.4 liens 28-34 and col.13 lines 33-39(i.e. **generate unique identifier for program module**)); wherein each program includes currently-executing tasks that change between a foreground and a background at the CPU(See Douceur 0005-0008,0036,0064-0065 and Fig 5(i.e., **interference of a background process with a foreground process**)); calculating, on each task change, a new signature of at least part of program instruction lines for the program associated with the task(See Sinha col.7 line 67 through col.8 line 3 and col.14 lines 18-24(i.e., **execution identifying**)); and checking the conformity of new signature with the unique signature(See Sinha col.10 lines 11-15 and col.14 lines 18-24(i.e., **comparing integrity signatures**)).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 and 18-24 rejected under 35 U.S.C. 103(a) as being unpatentable over Sinha et al (hereinafter referred as Sinha) US Patent No 7,346,780 B2 in view of Douceur et al (hereinafter referred as Douceur) US Pub No US 2005/0132375 A1.

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5. As per claim 1: Sinha discloses a method for authorizing an access to a table of address correspondence between a multitask CPU and at least one memory containing several programs, comprising calculating, on each task change between a first program module and a second program module of the CPU (See col. 7 line 67 through col. 8 line 3 and col. 14 lines 18-24 and **claims 1-2** (i.e., execution identifying **and first & second program module having distinct execution-identifying signature**))), a signature of at least part of the program instruction lines, and each signature being associated with a program identifier (See col. 4 lines 28-34 and col. 13 lines 33-39(i.e., generate unique identifier for program module));checking the conformity of this signature with a signature recorded upon previous execution of the involved program(See col. 10 lines 11-15 and col. 14 lines 18-24(i.e., **comparing integrity signatures**)).

Sinha does not explicitly teach switching from foreground to background and switching from background to foreground, a signature of at least part of the second program module instruction lines (See 0005-0008, 0036, 0064-0065 and Fig 5(i.e., **interference of a background process with a foreground process**)).

However Douceur teaches switching from foreground to background and switching from background to foreground, a signature of at least part of the second program module instruction lines (See 0005-0008, 0036, 0064-0065 and Fig 5).

Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Douceur within Sinha method in order to provide a method and system for limiting the interference of a background process with a foreground process.

6. As per claim 2: the combination of Sinha and Douceur discloses the method wherein said signature is calculated by the implementation of a Hash function (See Sinha col. 11 lines 50-66).

7. As per claim 3: the combination of Sinha and Douceur discloses the method wherein said memory is a RAM in which are loaded program lines from a mass storage (See Sinha col. 19 lines 50-59 and col. 20 lines 24-34).

8. As per claim 4: Sinha discloses a processor of multitask execution of several programs, exploiting a table of correspondence between virtual addresses of the lines of the different programs and physical addresses of these lines in at least one memory, each correspondence being associated with an identifier of the involved program when executed, comprising means for calculating a current signature based on at least part of the program lines in said memory (See col. 10 lines 11-15 and col. 14 lines 18-24), and means for comparing this signature with the identifier of the program stored in the correspondence table(See col. 7 line 67 through col. 8 line 3 and col. 14 lines 18-24).

Sinha does not explicitly teach each of the several programs being different from each other.

However Douceur teaches each of the several programs being different from each other (See 0005-0008, 0019, 0038 and Fig 5)

Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Douceur within Sinha method in order to execute several application on the same time in order to faster the execution time.

9. As per claim 5: the combination of Sinha and Douceur discloses the processor wherein the identity of the signature and of the program identifier allows the CPU to execute the instruction of the involved program (See Sinha col. 4 lines 28-34 and col.13 lines 33-39).

10. As per claim 18: Sinha discloses a method comprising: executing a plurality of programs, each having a unique signature at a CPU, wherein each program includes currently-executing tasks that change at the CPU(See col. 4 lines 28-34 and col. 13 lines 33-39(i.e., **generate unique identifier for program module**)); calculating, on each task change, a new signature of at least part of program instruction lines for the program associated with the task(See col. 7 line 67 through col. 8 line 3 and col. 14 lines 18-24(i.e., **execution identifying**)); and checking the conformity of the new signature with a unique signature(See col. 10 lines 11-15 and col. 14 lines 18-24(i.e., **comparing integrity signatures**) ).

Sinha does not explicitly teach executing, at CPU, a plurality of programs simultaneously, each program having a unique signature (See 0005-0008, 0019, 0038 and Fig 5); switching from foreground to background and switching form background to foreground, a signature of at least part of the second program module instruction lines (See 0005-0008, 0036, 0064-0065 and Fig 5(i.e., **interference of a background process with a foreground process**)).

However Douceur teaches switching from foreground to background and switching form background to foreground, a signature of at least part of the second program module instruction lines (See 0005-0008, 0036, 0064-0065 and Fig 5).

Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Douceur within Sinha method in order to



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provide a method and system for limiting the interference of a background process with a foreground process.

11. As per claim 19: the combination of Sinha and Douceur discloses the method wherein each signature is calculated by the implementation of a hash function (See Sinha col. 11 lines 50-66).

12. As per claim 20: the combination of Sinha and Douceur discloses the method further comprising suspending execution of a program if the new signature and the unique signature do not conform(See Sinha col. 10 lines 11-15 and col. 14 lines 18-24).

13. As per claim 21: the combination of Sinha and Douceur discloses the method further comprising storing the new signature in a memory (See Sinha col. 13 lines 33-39 and col. 20 lines 24-34); and checking the conformity of a next new signature with the stored new signature at the next task change associated with the program (See Sinha col. 10 lines 11-15 and col. 14 lines 18-24).

14. As per claim 22: the combination of Sinha and Douceur discloses the method further comprising establishing the unique signature when the associated program is first executed(See Sinha col. 13 lines 33-39).

15. As per claim 23: the combination of Sinha and Douceur discloses the method further comprising storing the unique signature in a memory (See Sinha col. 13 lines 33-39 and col. 20 lines 24-34); and checking the conformity of a next new signature with the stored unique signature at the next task change associated with the program (See Sinha col. 10 lines 11-15 and col. 14 lines 18-24).

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16. As per claim 24: the combination of Sinha and Douceur discloses the method further comprising storing the new signature in a memory in response to a first task change (See Sinha col. 13 lines 33-39 and col. 20 lines 24-34); and checking the conformity of the new signature with the unique signature in response to a second task change (See Sinha col. 10 lines 11-15 and col. 14 lines 18-24).

***Conclusion***

**17. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

/Nasser Moazzami/

Supervisory Patent Examiner, Art Unit 2436 will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fikremariam Yalew whose telephone number is 5712723852. The examiner can normally be reached on 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moazzami Nasser can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fikremariam Yalew/  
Examiner, Art Unit 2436  
11/01/2010

/Nasser Moazzami/

Supervisory Patent Examiner, Art Unit 2436